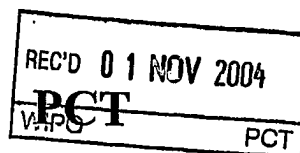


PATENT COOPERATION TREATY

From the:
INTERNATIONAL SEARCHING AUTHORITY



To:

Shelston IP
Level 21
60 Margaret Street
SYDNEY NSW 2000

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **19 OCT 2004**

Applicant's or agent's file reference
39174WOP00

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/AU2004/001158

International filing date (day/month/year)
27 August 2004

Priority date (day/month/year)
29 August 2003

International Patent Classification (IPC) or both national classification and IPC
Int. Cl.⁷ **B01D 21/01, C02F 1/54, 1/56**

Applicant

THE UNIVERSITY OF NEWCASTLE RESEARCH ASSOCIATES LIMITED et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the IPEA/AU
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Authorized Officer
JOHN DEUIS
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2004/001158

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/AU2004/001158

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 3-6, 67-69	YES
	Claims 1-2, 7-66	NO
Inventive step (IS)	Claims 3-6, 67-69	YES
	Claims 1-2, 7-66	NO
Industrial applicability (IA)	Claims 1-69	YES
	Claims	NO

2. Citations and explanations:

The claims are not novel and lack an inventive step regarding the following citations:

D1: WO 2001/005712 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED)
D2: WO 1999/050195 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED)
D3: US 5846433 A (SORENSEN ET AL.)
D4: WO 2002/004360 A (MICROBAR INC.)
D5: US 6607670 B (BALDWIN ET AL.)
D6: WO 1999/050188 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED)
D7: US 5779910 A (DONLIN)
D8: US 4997573 A (BROWNE)
D9: esp@cenet database Abstract JP56091807 A (FUJI KIKAI SEISAKUSHO:KK) 25 July 1981
D10: WO 2001/010530 A (BAKER HUGHES INCORPORATED)
D11: US 5549827 A (BATSON)
D12: US 6171506 B (ALLEN ET AL.)
D13: US 6083404 A (SOMMESE ET AL.)
D14: US 4178243 A (MESSER)
D15: US 4273658 A (KARMAN)
D16: US 4999115 A (PETERSON)

D1-D3 claims 1-2, 7-66

These documents disclose methods for dewatering of solid particle beds and the separation of liquid and solid particles from liquid-solid suspensions. The application of one or more conditioning stimuli comprising polymeric flocculants, polymeric coagulants, mechanical agitation, centrifuge and mechanical filtration etc., are disclosed throughout the citations.

D4-D9 claims 1, 7-66

These documents disclose methods for the controlling the condition of solid particles in a liquid suspension, wherein the application one or more of flocculation, coagulation, pH, temperature, mechanical agitation, sedimentation and filtering etc., are disclosed.

D10-D16 claims 2, 7-66

These documents disclose methods for dewatering or deliquifying of a bed of solid particles with the application of one or more stimuli to the said bed. Stimuli of flocculant, coagulant and microparticle addition, and mechanical agitation, gravity separation etc., are disclosed throughout the citations.